

Fluid Power Cylinder and Actuator Manufacturing: 2002

Issued August 2004

EC02-311-333995

2002 Economic Census

Manufacturing

Industry Series



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Economics and Statistics Administration
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Table 1. Historical Statistics for the Industry: 2002 and Earlier Years

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year ¹	Com- panies ²	All estab- lish- ments ³	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)	
			Number ⁴	Payroll (\$1,000)	Number ⁴	Hours (1,000)	Wages (\$1,000)					
333995, Fluid power cylinder and actuator manufacturing	2002..	256	303	19 024	800 861	12 047	23 812	418 783	1 846 361	1 243 183	3 123 628	136 287
2001	N	N	N	21 436	889 607	14 768	29 381	501 911	2 054 696	1 328 477	3 402 247	96 417
2000	N	N	N	23 303	974 928	15 645	31 712	541 716	2 190 387	1 504 547	3 689 626	135 322
1999	N	N	N	24 801	1 002 336	16 351	32 351	569 082	2 204 799	1 485 260	3 695 917	151 748
1998	N	N	N	24 484	965 324	16 385	33 962	578 455	2 196 410	1 531 118	3 660 438	158 487
1997	282	320	N	23 030	898 428	15 109	31 597	525 990	2 155 657	1 398 733	3 542 331	111 723

¹Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Industry Statistics for Selected States: 2002

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments ²		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
333995, Fluid power cylinder and actuator manufacturing												
United States	1	303	155	19 024	800 861	12 047	23 812	418 783	1 846 361	1 243 183	3 123 628	136 287
Alabama	2	7	4	334	11 388	244	441	7 204	25 596	32 256	58 630	1 238
California	1	35	11	1 722	82 096	1 014	1 799	38 040	153 530	132 989	284 588	5 184
Connecticut	—	8	5	244	7 551	145	206	3 948	23 896	9 634	33 566	910
Florida	—	4	1	117	4 469	88	61	2 819	7 663	6 616	14 784	201
Illinois	—	32	13	2 895	118 857	1 951	4 177	67 340	262 732	216 265	494 723	48 744
Indiana	—	9	6	419	15 837	299	652	10 517	50 836	23 902	76 351	2 709
Iowa	3	7	7	1 075	33 793	820	1 724	23 732	73 545	50 896	124 386	4 115
Kansas	4	6	4	261	7 672	204	423	5 453	22 432	15 656	38 149	1 417
Michigan	—	16	8	845	35 461	539	1 072	18 721	92 009	63 658	157 891	5 864
Minnesota	1	10	6	415	18 510	241	384	7 746	30 915	30 165	64 398	2 370
New York	—	14	12	3 093	164 723	1 497	2 843	65 666	423 302	128 452	549 293	19 861
North Carolina	—	5	5	535	23 497	331	629	12 012	52 459	50 571	106 754	6 438
Ohio	1	34	18	1 597	59 291	1 055	1 995	33 579	132 158	97 798	235 867	6 900
Oregon	—	9	5	341	12 967	220	419	7 114	33 861	12 588	46 625	1 170
Pennsylvania	1	9	3	189	7 253	134	285	4 357	16 620	15 297	30 378	1 076
Texas	1	17	11	1 086	41 379	768	1 660	25 113	86 164	65 916	152 503	2 573
Washington	2	14	4	543	27 180	403	719	18 077	31 250	36 477	70 878	2 050
Wisconsin	—	18	10	840	28 724	549	1 078	15 898	91 121	84 435	174 536	4 330

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
333995, Fluid power cylinder and actuator manufacturing	
Companies ¹	number.. 256
All establishments ²	number.. 303
Establishments with 1 to 19 employees	number.. 148
Establishments with 20 to 99 employees	number.. 106
Establishments with 100 employees or more	number.. 49
All employees ³	number.. 19 024
Total compensation	\$1,000.. 1 044 306
Annual payroll	\$1,000.. 800 861
Total fringe benefits	\$1,000.. 243 445
Production workers, average for year	number.. 12 047
Production workers on March 12	number.. 12 180
Production workers on May 12	number.. 12 175
Production workers on August 12	number.. 12 028
Production workers on November 12	number.. 11 769
Production worker hours	1,000.. 23 812
Production worker wages	\$1,000.. 418 783
Total cost of materials	\$1,000.. 1 243 183
Materials, parts, containers, packaging, etc., used	\$1,000.. 1 103 973
Resales	\$1,000.. 61 778
Purchased fuels	\$1,000.. 6 978
Purchased electricity	\$1,000.. 31 284
Contract work	\$1,000.. 39 170
Quantity of electricity purchased for heat and power	1,000 kWh.. 513 052
Quantity of electricity generated less sold for heat and power	1,000 kWh.. 105
Total value of shipments	\$1,000.. 3 123 628
Primary products value of shipments	\$1,000.. 2 573 484
Secondary products value of shipments	\$1,000.. 421 414
Total miscellaneous receipts	\$1,000.. 128 730
Value of resales	\$1,000.. 87 729
Contract receipts	\$1,000.. 1 279
Other miscellaneous receipts	\$1,000.. 39 722
Primary products specialization ratio	percent.. 86
Value of primary products shipments made in all industries	\$1,000.. 3 080 254
Value of primary products shipments made in this industry	\$1,000.. 2 573 484
Value of primary products shipments made in other industries	\$1,000.. 506 770
Coverage ratio	percent.. 84
Value added	\$1,000.. 1 846 361
Total inventories, beginning of year	\$1,000.. 647 254
Finished goods inventories	\$1,000.. 132 783
Work-in-process inventories	\$1,000.. 285 104
Materials and supplies inventories	\$1,000.. 229 367
Total inventories, end of year	\$1,000.. 615 060
Finished goods inventories	\$1,000.. 110 715
Work-in-process inventories	\$1,000.. 273 088
Materials and supplies inventories	\$1,000.. 231 257
Gross value of depreciable assets (acquisition costs) at beginning of year	\$1,000.. 1 456 202
Total capital expenditures (new and used)	\$1,000.. 136 287
Buildings and other structures (new and used)	\$1,000.. 25 154
Machinery and equipment (new and used)	\$1,000.. 111 133
Automobiles, trucks, etc., for highway use	\$1,000.. 2 248
Computers and peripheral data processing equipment	\$1,000.. 11 720
All other expenditures for machinery and equipment	\$1,000.. 97 165
Total retirements	\$1,000.. 51 867
Gross value of depreciable assets at end of year	\$1,000.. 1 540 622
Depreciation charges during year	\$1,000.. 100 154
Total rental payments	\$1,000.. 26 187
Buildings and other structures	\$1,000.. 14 914
Machinery and equipment	\$1,000.. 11 273
Total other expenses ⁴	\$1,000.. 207 501
Response coverage ratio ⁵	percent.. 78
Repair and maintenance services of buildings and/or machinery ⁴	\$1,000.. 23 345
Communications services ⁴	\$1,000.. 5 518
Legal services ⁴	\$1,000.. 4 907
Accounting, auditing, and bookkeeping services ⁴	\$1,000.. 4 119
Advertising and promotional services ⁴	\$1,000.. 5 388
Expensed computer hardware and supplies and purchased computer services ⁴	\$1,000.. 19 720
Refuse removal (including hazardous waste) services ⁴	\$1,000.. 2 152
Management consulting and administrative services ⁴	\$1,000.. 16 051
Taxes and license fees ⁴	\$1,000.. 6 895
All other expenses ⁴	\$1,000.. 119 408

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Based on Annual Survey of Manufactures (ASM) sample data.

⁵A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E ¹	All establishments ²	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
333995, Fluid power cylinder and actuator manufacturing											
All establishments	1	303	19 024	800 861	12 047	23 812	418 783	1 846 361	1 243 183	3 123 628	136 287
Establishments with—											
1 to 4 employees	8	72	150	5 334	105	182	2 803	11 386	8 386	19 725	755
5 to 9 employees	7	40	280	10 902	186	384	5 429	24 980	23 201	47 076	1 469
10 to 19 employees	5	36	517	20 227	362	736	11 921	38 074	36 692	74 170	3 504
20 to 49 employees	1	72	2 504	98 096	1 623	3 190	51 729	231 999	176 166	410 471	11 853
50 to 99 employees	1	34	2 479	93 566	1 736	3 341	55 368	236 538	135 364	380 583	15 148
100 to 249 employees	—	38	5 203	204 320	3 496	6 618	115 897	478 198	369 810	864 628	29 012
250 to 499 employees	—	7	2 511	99 521	1 672	3 284	55 419	204 355	131 686	333 298	5 685
500 to 999 employees	—	2	g	D	D	D	D	D	D	D	D
1,000 to 2,499 employees	—	2	h	D	D	D	D	D	D	D	D
2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—
Administrative records ⁴	9	116	643	24 350	452	895	12 741	48 600	36 787	85 387	3 163

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Industry Statistics by Primary Product Class Specialization: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments ¹	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ²	Payroll (\$1,000)	Number ²	Hours (1,000)	Wages (\$1,000)				
333995	Fluid power cylinder and actuator manufacturing	303	19 024	800 861	12 047	23 812	418 783	1 846 361	1 243 183	3 123 628	136 287
3339951	Nonaerospace type hydraulic fluid power cylinders and actuators, linear and rotary	78	7 227	262 282	5 115	10 348	165 316	650 620	520 127	1 199 803	73 020
3339953	Nonaerospace type pneumatic fluid power cylinders and actuators, linear and rotary	30	2 749	117 877	1 730	3 356	56 826	280 032	163 693	448 468	13 701
3339955	Parts for nonaerospace type hydraulic and pneumatic fluid power cylinders and actuators, including accumulators, cushions, etc.	28	1 370	48 551	973	2 005	29 782	115 288	108 859	224 072	8 397
3339957	Aerospace type fluid power cylinders and actuators, hydraulic and pneumatic	15	5 565	291 512	2 802	5 323	124 782	644 040	337 144	980 361	31 463

¹Includes establishments with payroll at any time during the year.

²Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6a. **Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
333995	Fluid power cylinder and actuator manufacturing .....2002..	N	X	X	3 080 254
	.....1997..	N	X	X	3 175 231
3339951	Nonaerospace type hydraulic fluid power cylinders and actuators, linear and rotary .....2002..	N	X	X	956 772
	.....1997..	N	X	X	1 382 036
33399511	Nonaerospace type hydraulic fluid power cylinders and actuators, linear and rotary .....2002..	N	X	X	956 772
	.....1997..	N	X	X	1 382 036
3339951100	Nonaerospace type hydraulic fluid power cylinders and actuators, linear and rotary ¹ .....2002..	94	X	X	956 772
	.....1997..	133	X	X	1 382 036
3339953	Nonaerospace type pneumatic fluid power cylinders and actuators, linear and rotary .....2002..	N	X	X	520 741
	.....1997..	N	X	X	491 260
33399531	Nonaerospace type pneumatic fluid power cylinders and actuators, linear and rotary .....2002..	N	X	X	520 741
	.....1997..	N	X	X	491 260
3339953100	Nonaerospace type pneumatic fluid power cylinders and actuators, linear and rotary ¹ .....2002..	57	X	X	520 741
	.....1997..	82	X	X	491 260
3339955	Parts for nonaerospace type hydraulic and pneumatic fluid power cylinders and actuators, including accumulators, cushions, etc. ....2002..	N	X	X	369 055
	.....1997..	N	X	X	303 995
33399551	Parts for nonaerospace type hydraulic and pneumatic fluid power cylinders and actuators, including accumulators, cushions, etc. ....2002..	N	X	X	369 055
	.....1997..	N	X	X	303 995
3339955100	Parts for nonaerospace type hydraulic and pneumatic fluid power cylinders and actuators, including accumulators, cushions, etc. ¹ .....2002..	72	X	X	369 055
	.....1997..	84	X	X	303 995
3339957	Aerospace type fluid power cylinders and actuators, hydraulic and pneumatic .....2002..	N	X	X	987 725
	.....1997..	N	X	X	900 549
33399571	Aerospace type fluid power cylinders and actuators, hydraulic and pneumatic .....2002..	N	X	X	987 725
	.....1997..	N	X	X	900 549
3339957100	Aerospace type fluid power cylinders and actuators, hydraulic and pneumatic ¹ .....2002..	34	X	X	987 725
	.....1997..	43	X	X	900 549
333995W	Fluid power cylinder and actuator manufacturing, nsk, total .....2002..	N	X	X	245 961
	.....1997..	N	X	X	97 391
333995WY	Fluid power cylinder and actuator manufacturing, nsk, total .....2002..	N	X	X	245 961
	.....1997..	N	X	X	97 391
333995WYWW	Fluid power cylinder and actuator manufacturing, nsk, for nonadministrative-record establishments .....2002..	N	X	X	164 012
	.....1997..	N	X	X	38 851
333995WYWY	Fluid power cylinder and actuator manufacturing, nsk, for administrative-record establishments .....2002..	N	X	X	81 949
	.....1997..	N	X	X	58 540

¹For additional detail, see Current Industrial Report MA333N, Fluid Power Products.

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. Product Class Shipments for Selected States: 2002 and 1997

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3339951	Nonaerospace type hydraulic fluid power cylinders and actuators, linear and rotary	
	United States	2002.. 956 772
		1997.. 1 382 036
	California	2002.. 28 292
		1997.. 79 004
	Connecticut	2002.. 24 686
		1997.. N
	Illinois	2002.. 170 190
		1997.. 381 098
	Indiana	2002.. 32 958
		1997.. 24 968
	Iowa	2002.. 92 837
		1997.. 137 262
	Michigan	2002.. 46 869
		1997.. 40 418
	Minnesota	2002.. 23 962
		1997.. 51 897
	New York	2002.. 34 784
		1997.. 19 290
	Ohio	2002.. 110 805
		1997.. 135 578
3339953	Nonaerospace type pneumatic fluid power cylinders and actuators, linear and rotary	
	United States	2002.. 520 741
		1997.. 491 260
	California	2002.. 7 243
		1997.. N
	Illinois	2002.. 85 372
		1997.. 123 815
	Indiana	2002.. 96 966
		1997.. 95 122
	Michigan	2002.. 86 815
		1997.. 94 470
	New York	2002.. 28 818
		1997.. 18 437
	Ohio	2002.. 44 191
		1997.. 41 736
3339955	Parts for nonaerospace type hydraulic and pneumatic fluid power cylinders and actuators, including accumulators, cushions, etc.	
	United States	2002.. 369 055
		1997.. 303 995
	California	2002.. 32 397
		1997.. 9 006
	Connecticut	2002.. 4 608
		1997.. 6 598
	Illinois	2002.. 39 891
		1997.. 48 536
	Iowa	2002.. 2 000
		1997.. N
	Michigan	2002.. 13 455
		1997.. 33 240
	Minnesota	2002.. 8 044
		1997.. 9 101
	New York	2002.. 29 294
		1997.. 14 942
	Ohio	2002.. 45 082
		1997.. 50 682
	Oregon	2002.. 4 798
		1997.. 5 271
3339957	Aerospace type fluid power cylinders and actuators, hydraulic and pneumatic	
	United States	2002.. 987 725
		1997.. 900 549
	California	2002.. 292 769
		1997.. 295 331
	Connecticut	2002.. 4 344
		1997.. 8 518

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 7. Materials Consumed by Kind: 2002 and 1997

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
333995	Fluid power cylinder and actuator manufacturing		
00900001	Total materials .....2002..	X	1 103 973
	.....1997..	X	1 220 698
33399603	Fluid power pumps purchased for incorporation into manufactured products .....2002..	X	12 246
	.....1997..	X	91 418
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products .....2002..	X	22 726
	.....1997..	X	89 083
33291901	Metal pipe, valves, and pipe fittings (excluding forgings) .....2002..	X	10 319
	.....1997..	X	19 252
33200075	Other fabricated metal products (excluding forgings) .....2002..	X	49 262
	.....1997..	X	157 031
33210000	Forgings .....2002..	X	36 150
	.....1997..	X	N
33151001	Iron and steel castings (rough and semifinished) .....2002..	X	47 713
	.....1997..	X	83 654
33152005	Aluminum and aluminum-base alloy castings (rough and semifinished) .....2002..	X	4 819
	.....1997..	X	14 376
33152003	Other nonferrous metalcastings, rough and semifinished (excluding aluminum and aluminum-base alloy).....2002..	X	3 731
	.....1997..	X	17 322
33120007	Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products) .....2002..	X	84 669
	.....1997..	X	186 331
33120016	Steel sheet and strip (including tinplate) .....2002..	X	1 430
	.....1997..	X	N
33121000	Steel tubing .....2002..	X	81 417
	.....1997..	X	114 279
33120061	All other steel shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	29 584
	.....1997..	X	37 378
33131601	Aluminum and aluminum-base alloy extruded shapes (extruded rod, bar, pipe, tube, etc.) .....2002..	X	23 099
	.....1997..	X	N
33100047	Other aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	3 358
	.....1997..	X	18 653
33100077	Other nonferrous shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	849
	.....1997..	X	6 932
331000AA	Metal powders .....2002..	X	116
	.....1997..	X	D
32410005	Lubricating and cutting oils .....2002..	X	6 130
	.....1997..	X	6 558
32551002	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied product .....2002..	X	5 193
	.....1997..	X	N
33531201	Electric motors and generators .....2002..	X	9 525
	.....1997..	X	19 953
33299105	Ball bearings (mounted or unmounted) .....2002..	X	7 057
	.....1997..	X	3 069
33299103	Roller bearings (mounted or unmounted) .....2002..	X	1 299
	.....1997..	X	D
33361301	Plain bearings and bushings .....2002..	X	5 250
	.....1997..	X	9 745
33361200	Mechanical speed changers, gears, and industrial high-speed drives .....2002..	X	4 781
	.....1997..	X	6 253
33999103	Gaskets (all types), and packing and sealing devices .....2002..	X	25 353
	.....1997..	X	20 281
33351503	Cutting tools for machine tools .....2002..	X	20 366
	.....1997..	X	27 308
00970099	All other materials and components, parts, containers, and supplies .....2002..	X	420 375
	.....1997..	X	205 474
00971000	Materials, ingredients, containers, and supplies, nsk .....2002..	X	187 156
	.....1997..	X	62 093

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.